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NSLDS II Reengineering Reports Detailed Design: FFEL Loan Disbursements Report R-APR-001

Version 1.1

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Document Control

Version Number	Description	Release Date	Author
1.0	Initial Issue	11/08/2002	Justin M. Miller
1.1	Updated Format	11/13/2002	Jason Patton

1 FFEL Loan Disbursements Report

Description	The FFEL Loan Disbursements Report provides FFEL loan disbursements for lenders or schools within a specified period of time.
User Group	Department of Education
Data Source	NSLDS II Data Mart
Output Media	Downloadable File
Frequency	On Request
Requirements Traceability	2.001, 2.002
Output Media	Unformatted flat file
Comments	This report corresponds to APR001 - Report of FFEL Loan Disbursements in NSLDS. This report will generate a MicroStrategy Data Mart Report.

1.1 Overview

The FFEL Loan Disbursements Report is one of the APR exception reports that return on average over 65,000 rows of report data. Due to this an alternate process to generate the report has been developed which will still meet the following requirements.

- Report must be returned in flat file format.
- Report must have the option of being sorted on varying report objects.
- Report must be available for up to 120 days.

From a design perspective this report will be created in MicroStrategy the same way each standard report is, the difference will be that the results will be populated in what is called a data mart table. A data mart table is a temporary database table that stores the report results. Upon the creation of this data mart table is where the alternate process of delivering this report begins.

1.2 Process Outline

The FFEL Loan Disbursement Report is a multi-step process. Below are the steps at a high level.

Step 1: User chooses the report parameters via MicroStrategy.
Step 2: Data Mart table is creating that holds report contents.
Step 3: Informatica processes the sort logic and generates the flat file.
Step 4: User downloads the report flat file from the Web upon completion.

2 MicroStrategy Report Design

The section describes how to construct the report within MicroStrategy.

2.1 Filter Specifications

Filter	Filter Description	Prompt	Default	Min/Max	Type
Choose School	This filter limits the result set by the school code selected by the user.	Yes	None	Min = 1 Max = 1	Filter Definition Prompt – Choose Attributes in Hierarchy
Enter Loan Disbursement Date Range	This filter limits the result set by loans that were disbursed on a date between the dates entered by the user.	Yes	None	Min = 1 Max = 1	Filter Definition Prompt – Qualify on Attribute
Sort Code	This filter limits the result set to sort code entered by user.	Yes	None	Min = 1 Max = 1	Filter Definition Prompt – Qualify on Attribute

2.2 Attribute Specifications

Attribute	NSLDS Table	NSLDS Attribute
Student Current Last Name	STU	CURRENT_LST
Student Current First Name	STU	CURRENT_FST
Student Middle Initial	STU	MID_INIT
Student Current SSN	STU	CURR_SSN
Student Current State	STU	ST
PLUS Borrower Current Last Name	PLUS_BOR	CURR_LST
PLUS Borrower Current First Name	PLUS_BOR	CURR_FST
PLUS Borrower Middle Initial	PLUS_BOR	MID_INIT

Attribute	NSLDS Table	NSLDS Attribute
PLUS Borrower Current SSN	PLUS_BOR	CURR_SSN
PLUS Borrower State of Residence	PLUS_BOR	RES_ST
Interest Rate	LOAN	INT_RT
Loan Type	LOAN	LOAN_TYPE
Disbursement Date	LOAN_DIS	DT
Loan Status	LOAN_STATUS	CODE
Lender *(code)*	LEN	CODE
Lender *(name)*	LEN	NM
School *(code)*	SCH	CODE
School *(name)*	SCH	NM
School Branch *(code)*	SCH_BR	CODE
School Branch *(name)*	SCH_BR	NM
Guaranty Agency *(code)*	GA	CODE
Guaranty Agency *(name)*	GA	NM
Sort Code	APR_SORT	CODE

2.3 Metric Specifications

Metric	Metric Description	Subtotal/ Grand Total	NSLDS Table	NSLDS Attribute
Cumulative Disbursement Amount	This metric is the total disbursement amount of the loan.	Grand Total	LOAN	TOT_DIS

2.4 Hierarchies for Drilling

No drilling options identified for this report.

2.5 Data Mart Table

This section details the steps needed in order to generate a data mart table on the DB2 database server once all the filters, attributes, and metrics have been created.

Step 1:

From the MicroStrategy Desktop design mode for the FFEL Loans Disbursements report select the **Data** option on the toolbar, then select **Configure Data mart.** The report data mart Setup popup screen will appear.

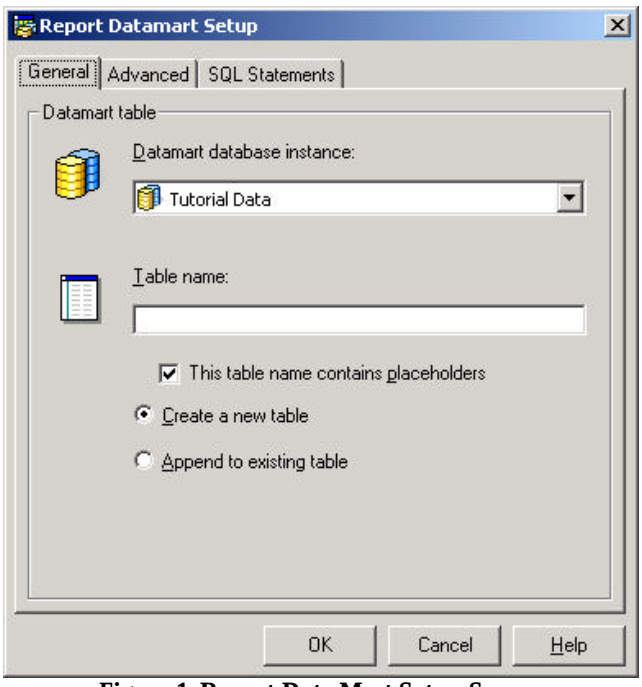

Figure 1, Report Data Mart Setup Screen

Step 2:

In the table name text box enter the following name schema for the data mart report: **!O!U!D** This is a MicroStrategy naming convention that will uniquely name each data mart table.

Step 3:

Ensure that the 'Create a new table' option button is selected. This ensures that a new data mart table will be created each time the report is generated.

Step 4:

Click the Advanced tab. In the 'Maximum number or rows' dialog box change the number from 65,536 to 20,000,000. This will increase the number of rows allowed in the data mart table.

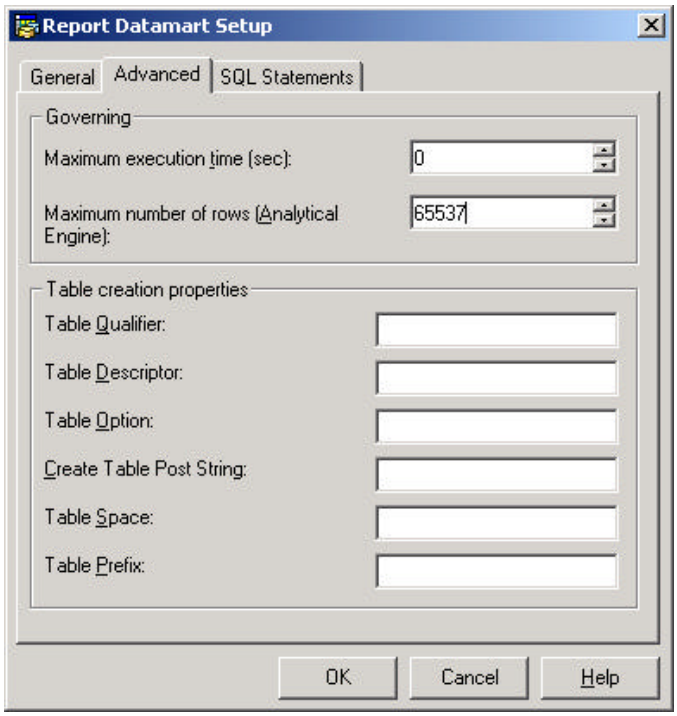

Figure 2, Advanced Tab

3 Report Generation Process

The report generation process goes through four steps in order to deliver the final flat file to the user. This section gives a detailed description of how each step is designed to work.

3.1 Filter Prompts on MicroStategy Web

A user will navigate through the MicroStrategy Web in the same fashion that the standard reports are generated. Once they choose to access the FFEL Loans Disbursements Report they will be prompted to enter their report parameters, or filters as they are called within MicroStrategy. Once the user chooses to execute the report a command is sent through the MicroStrategy Intelligence Server, which then creates the data mart table. In typical standard reports this would be the time the user would wait for their report results to be displayed, however due to the nature of the size of the report, the flat file could take a longer period of time. Here user will be instructed to check the exception reports page at a later time to pick up and download their report.

3.2 Data Mart Table Creation

After the user enters the report parameters and chooses to generate the report the MicroStrategy Intelligence Server creates the data mart table. The definition of this table was defined in the

previous sections. The last column of this table holds the sort code, which identifies how the user wants the flat file to be sorted. Each row of the data mart table would be populated with a 1, 2, or 3 and they would be identical, meaning each row would contain the same sort code.

3.3 Informatica Flat File Configuration

Informatica is going to take the contents of the data mart table and convert it into a non-formatted flat file. However, it must be able to sort the contents of the flat file depending on the value in the sort code column in the data mart table. This process will consist of simple logic code.

Psuedo code Logic:

```
If SORT_CODE = 1
        Then sort flat file by School, School Branch, Disbursement Date, Student Current SSN,
        Student Last Name, Student First Name, and PLUS Borrower SSN
End If

If SORT_CODE = 2
        Then sort flat file by Student Current SSN, Student Last Name, Student First Name,
        School, and School Branch
End If

If SORT_CODE = 3
        Then sort flat file by Lender, Disbursement Date, Student Current SSN, Student Last
        Name, and Student First Name
End If
```

The Informatica procedure runs and stores the flat file in text format on the DB2 database server under a file directory specifically for exception reports.

The MicroStrategy data mart table will serve as the Informatica source file. The location of the source table and the target directory are located in the table below.

Attribute	Source: Data Mart Table	Target: NSLDS II Directory
System	NSLDS II EDW	NSLDS
VDC Hardware Name	TBD	TBD
IP Address	TBD	TBD

4 Exception Report Download Process

Exception Reports will be stored on the DB2 database server in a file directory specifically reserved for exception reports. This directory will have a separate folder structure for each user that requests an exception report. Users will be able to retrieve and download these reports from the NSLDS II website interface through an FTP connection to the database server. Users will have access to these reports up to 120 days after they have been created.

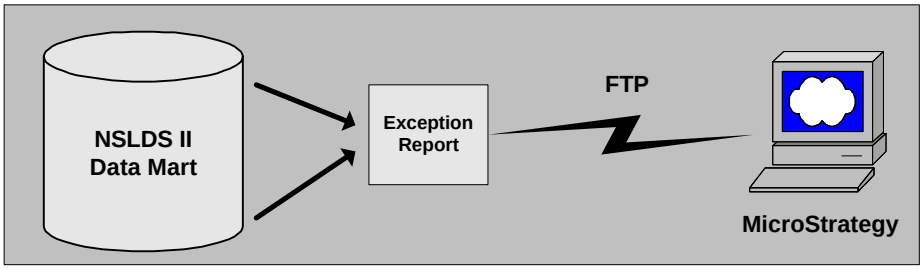

Figure 3, Report Download Process

In the MicroStrategy Web environment, there will be a specific screen where users will be able to retrieve their exception reports for download. On this screen will be an ASP code module that checks the DB2 database server file directory for any exception reports that have been generated each time the exception reports download page is accessed.

Displayed on this screen will be a dropdown box that will perform the following logic to only display those exception reports that the specific user has requested. This logic would check all files stored for the user inside their respective database file directory folder and match the user name embedded within file name to the current MicroStrategy user name:

If (User Name File on data set) = (MicroStrategy User Name)
    Display Exception Report Name in dropdown box
Else
    Do not display Exception Report Name in dropdown box
End

Once the dropdown is completely populated the user will select the requested report. The user will be prompted for their download directory on their computer where they can view the file.